

App. Serial No. 10/529,962
Docket No.: BE020028 US

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In the Claims:

This listing of claims replaces all prior versions.

1. *(Previously Presented)* A method of manufacturing a semiconductor device, the method comprising:

applying an auxiliary layer comprising non-doped silicon and germanium to a surface of a silicon body wherein, during an oxidation treatment, a thicker layer of silicon oxide is formed on the auxiliary layer than is formed on the surface of the silicon body;

at the location of field isolation regions to be formed, forming windows in the auxiliary layer and grooves in the surface of the silicon body;

carrying out an oxidation treatment to provide the walls of the grooves and of the windows respectively of the silicon body and the auxiliary layer with a layer of silicon oxide, the silicon oxide on the auxiliary layer being thicker than the silicon oxide on the silicon body;

but wherein it is precluded that the auxiliary layer adjacent to the windows is oxidized across the entire thickness;

after which, successively, a layer of isolating material is deposited in a thickness such that the grooves and the windows are filled completely; and

carrying out a planarization treatment until the non-oxidized part of the auxiliary layer is exposed, after which this part of the auxiliary layer is removed.

2. *(Original)* A method as claimed in claim 1, characterized in that on the surface of the silicon body a layer of $\text{Si}_x\text{Ge}_{1-x-y}\text{C}_y$, where $0.70 < x < 0.95$ and $y < 0.05$, is provided as the auxiliary layer.

3. *(Previously Presented)* A method as claimed in claim 1, characterized in that the auxiliary layer is applied in a thickness such that this layer is not converted across the entire thickness into an oxide during the oxidation treatment.

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4. *(Previously Presented)* A method as claimed in claim 1, characterized in that a layer of silicon nitride is applied to the auxiliary layer, the windows being formed in the layer of silicon nitride as well as in the auxiliary layer.

5. *(Previously Presented)* A method as claimed in claim 1, characterized in that prior to applying the auxiliary layer to the surface of the silicon body, this surface is provided with a layer of silicon oxide, and the windows are also formed in the layer of silicon oxide.

6. *(Previously Presented)* A method as claimed in claim 2, characterized in that the auxiliary layer is applied in a thickness such that this layer is not converted across the entire thickness into an oxide during the oxidation treatment.

7. *(Previously Presented)* A method as claimed in claim 2, characterized in that a layer of silicon nitride is applied to the auxiliary layer, the windows being formed in the layer of silicon nitride as well as in the auxiliary layer.

8. *(Previously Presented)* A method as claimed in claim 2, characterized in that prior to applying the auxiliary layer to the surface of the silicon body, this surface is provided with a layer of silicon oxide, and the windows are also formed in the layer of silicon oxide.

9. *(Previously Presented)* A method as claimed in claim 3, characterized in that prior to applying the auxiliary layer to the surface of the silicon body, this surface is provided with a layer of silicon oxide, and the windows are also formed in the layer of silicon oxide.

10. *(Previously Presented)* A method as claimed in claim 4, characterized in that prior to applying the auxiliary layer to the surface of the silicon body, this surface is provided with a layer of silicon oxide, and the windows are also formed in the layer of silicon oxide.

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11. (*Currently Amended*) A method of manufacturing a semiconductor device, the method comprising:

applying ~~an~~ a non-doped auxiliary layer comprising silicon and germanium to a substrate including silicon, the non-doped auxiliary layer having oxidation characteristics that facilitate thicker oxide growth, relative to oxide growth on the substrate;

forming an opening having walls extending through the auxiliary layer and into ~~the~~ a silicon body;

oxidizing the auxiliary layer and the silicon body at the walls of the opening to form a layer of silicon oxide on the auxiliary layer that is thicker than ~~a~~ the silicon oxide layer on the silicon body, wherein the auxiliary layer adjacent to the wall is not oxidized across its entire thickness;

depositing a layer of isolating material on the layer of silicon ~~oxide dioxide~~ oxide to fill the opening;

planarizing the semiconductor device to expose a non-oxidized part of the auxiliary layer; and

after planarization, removing the non-oxidized part of the auxiliary layer.